

CLAIMS:

1. A method for signal processing, wherein a sensor signal of an image sensor is provided as an input and wherein the input is reconstructed in a filter to establish an output for further processing, wherein the filter comprises at least one reconstruction-filter selected from the group consisting of: a luminance-reconstruction-filter, a red-green-blue-color-reconstruction-filter and a contour-reconstruction-filter, wherein
5 - the input comprises a plurality of pixels, and a pixel provides a color value assigned to at least one of the colors red, green or blue,
characterized by
 - applying the reconstruction-filter to an array of pixels of predetermined array size
10 comprising a number of pixels, wherein at least one of the number of pixels is formed by a red-pixel assigned to the color of red, at least one of the number of pixels is formed by a blue-pixel assigned to the color of blue, and at least one of the number of pixels is formed by a green-pixel assigned to the color of green, and
 - weightening the red- and/or the blue-pixel by a green-parameter,
15 - summarizing the pixels of the array into one output-pixel, and
 - centering the output-pixel in the array.
2. The method as claimed in claim 1, characterized by positioning a center-output-pixel of a second filter subsequent to a first filter in phase with the output-pixel, in
20 particular by centering the center-output-pixel at the same center position of the array as the output-pixel.
3. The method as claimed in claim 1 or 2, characterized in that the reconstruction-filter is a luminance-reconstruction-filter and the pixels of the array are added
25 together in one white-pixel being the output-pixel.
4. The method as claimed in any one of the preceding claims, characterized by choosing the green-parameter in dependence of a sensor matrix of the image sensor.

5. The method as claimed in any one of the preceding claims, characterized by choosing the green-parameter in dependence of an optical transfer of an optical system providing an image signal to the image sensor.

5 6. The method as claimed in any one of the preceding claims, characterized by applying the luminance-reconstruction-filter to an array-size of 2×2 or 4×4 or 6×6 .

7. The method as claimed in claim 6, characterized by applying a low-pass-filter to an array size of 4×4 or 6×6 .

10 8. The method as claimed in claim 6 or 7, characterized in that the luminance-reconstruction-filter and the low-pass-filter are combined into one single filter.

9. The method as claimed in any one of the preceding claims, characterized by
15 applying subsequent to the luminance-reconstruction-filter the color-reconstruction-filter wherein in particular the color-reconstruction-filter comprises a false-color-filter to eliminate false colors from the input.

10. The method as claimed in any one of the preceding claims, characterized by
20 applying a post-filter to maintain in its output a phase to the output of a previous applied reconstruction-filter, in particular by applying the post-filter subsequent to a false-color-filter to maintain a phase to a previous applying luminance-reconstruction-filter.

11. The method as claimed in claim 10, characterized by applying subsequent to a
25 false-color-filter a post-filter of 2×2 array-size, to position a center-output-pixel of a predetermined small array of green-pixels in phase with a white-pixel which is centered with respect to the same array as that to which a luminance-reconstruction-filter has been applied to.

30 12. The method as claimed in any one of the preceding claims, characterized by offering various luminance-reconstruction-filters for appliance, in particular by applying a luminance-reconstruction-filter to an array size of 2×2 in case of no or slight optical low pass filtering and/or applying a respective luminance-reconstruction-filter to an increased array-size of 4×4 or 6×6 upon heavier optical low pass filtering.

13. The method as claimed in any one of the preceding claims, characterized by offering various color-reconstruction-filters for appliance, in particular applying a 3x3-color-reconstruction-filter in case of a 4 x 4-luminance-reconstruction-filter and/or applying a 5 x 5-color-reconstruction-filter in case of a 6 x 6-luminance-reconstruction-filter.

14. An apparatus for signal processing, which is in particular adapted to execute the method as claimed in claims 1 to 13, comprising an image sensor for providing a sensor signal as an input and a filter for reconstructing the input to establish an output for further processing, wherein the filter comprises at least one reconstruction-filter selected from the group consisting of: a luminance-reconstruction-filter, a red-green-blue-color-reconstruction-filter and a contour-reconstruction-filter,

- the input comprises a plurality of pixels, and a pixel provides a color value assigned to at least one of the colors red, green or blue,

characterized in that

- the reconstruction-filter is adapted to be applied to an array of pixels of predetermined array size comprising a number of pixels, wherein at least one of the number of pixels is formed by a red-pixel assigned to the color of red, at least one of the number of pixels is formed by a blue-pixel assigned to the color of blue, and at least one of the number of pixels is formed by a green-pixel assigned to the color of green and

the apparatus is further comprising

- means for weightening the red- and/or the blue-pixel with a green-parameter,
- means for summarizing the pixels of the array into one output pixel, and
- means for centering the output pixel in the array.

15. A computer program product storable on medium readable by a computing system, in particular a computing system of a camera, comprising a software code section which induces the computing system to execute the method as claimed in any one of claims 1 to 13 when the product is executed on the computing system, in particular when executed on a computing system of a camera.

16. A computing system and/or semiconductor device, in particular a computing system of a camera, for executing and/or storing a computer program product as claimed in claim 15 thereon

17. A camera comprising an optical system, an image sensor and an apparatus as claimed in claim 12 or a computing system as claimed in claim 16.